

We claim:

1. A process for reacting (i) thermoplastic polyurethanes with (ii) compounds having isocyanate groups, wherein the (ii) compounds used having isocyanate groups  
5      comprise (iia) compounds having at least three isocyanate groups based on aliphatic isocyanates and (iib) compounds having two isocyanate groups based on aromatic isocyanates.
2. The process according to claim 1, wherein an isocyanurate having three  
10      isocyanate groups is used as (iia).
3. The process according to claim 1, wherein an isocyanurate with an NCO content of from 20% to 25% and with a viscosity at 23°C of from 2500 mPas to 4000 mPas is used as (iia).  
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4. The process according to claim 1, wherein MDI, a carbodiimide-modified diphenylmethane 2,2'-, 2,4'- and/or 4,4'-diisocyanate (MDI), and/or a prepolymer based on diphenylmethane 2,2'-, 2,4'- and/or 4,4'-diisocyanate (MDI) is/are used as (iib).  
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5. The process according to claim 1, wherein a prepolymer based on diphenylmethane 2,2'-, 2,4'- and/or 4,4'-diisocyanate (MDI), alkanediol with a molar mass of from 60 g/mol to 400 g/mol, and polyetherdiol with a molar mass of from 500 g/mol to 4000 g/mol is/are used as (iib).  
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6. The process according to claim 5, wherein the prepolymer has a viscosity at 25°C of from 500 mPas to 800 mPas and an NCO content of from 20% to 25%.
7. The process according to any of claims 1 to 6, wherein the ratio by weight (iia):(iib) at which (iia) and (iib) are used is from 1:1 to 1:10.  
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8. The process according to claim 1, wherein from 1 to 10 parts by weight of (ii) compounds having isocyanate groups are used per 100 parts by weight of (i) thermoplastic polyurethane.  
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9. The process according to claim 1, wherein the preferably granulated (i) thermoplastic polyurethane is melted in an extruder and in the molten state is mixed with (ii) compounds having isocyanate groups, and reacted.
- 40 10. The process according to claim 9, wherein (i) granulated thermoplastic polyurethane is introduced together with (ii) compounds having isocyanate groups by way of a feeding aid into the extruder.

11. The process according to claim 9, wherein the extruder has a barrier screw.
  12. A polyisocyanate polyaddition product obtainable by way of a process according to any of claims 1 to 11.
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